CRF Errors Edited by the STIC System Center 1600/2900 Branch

Serial Number: 09|165,546 D

CRF Edit Date: 9/22/03
Edited by: PG

_____ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

_____ Corrected the SEQ ID NO. Sequence numbers edited were:

_____

_____ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

_____

_____ Deleted: ___ invalid beginning/end-of-file text ; ___ page numbers

_____ Inserted mandatory headings/numeric identifiers, specifically:

_____

_____ Moved responses to same line as heading/numeric identifier, specifically:

_____

_____ Other:

_____

_____

Revised 09/09/2003

1600

RAW SEQUENCE LISTING   DATE: 09/22/2003
PATENT APPLICATION: US/09/165,546D   TIME: 15:41:31

Input Set : A:\PTO.PG.txt
Output Set: N:\CRF4\09152003\I165546D.raw

SEQUENCE LISTING
     1 (1) GENERAL INFORMATION:
C--> 3   (i) APPLICANT: Knuth, Alexader; Jager, Elke; Chen, Yao, Scanlan, Matt;
     4   Gure, Ali, Old, Lloyd, Ritter, Gerd
     6   (ii) TITLE OF INVENTION: ISOLATED PEPTIDES CORRESPONDING TO AMINO ACID
     7   SEQUENCES OF NY-ESO-1, WHICH BIND TO MHC CLASS I AND MHC
CLASS II MOLECULES, AND
     8   USES THEREOF
    10   (iii) NUMBER OF SEQUENCES: 15
    12   (iv) CORRESPONDENCE ADDRESS:
    13   (A) ADDRESSEE: FULBRIGHT & JAWORSKI LLP
    14   (B) STREET: 666 Fifth Avenue
    15   (C) CITY: New York City
    16   (D) STATE: New York
    17   (E) COUNTRY: USA
    18   (F) ZIP: 10158
    20   (v) COMPUTER READABLE FORM:
    21   (A) MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
    22   (B) COMPUTER: IBM
    23   (C) OPERATING SYSTEM: PC-DOS
    24   (D) SOFTWARE: Word
    26   (vi) CURRENT APPLICATION DATA:
C--> 27   (A) APPLICATION NUMBER: US/09/165,546D
C--> 28   (B) FILING DATE: 02-Oct-1998
    29   (C) CLASSIFICATION: 530
C--> 39   (vii) PRIOR APPLICATION DATA:
    32   (A) APPLICATION NUMBER: 09/062,422
    33   (B) FILING DATE: April 17, 1998
    36   (A) APPLICATION NUMBER: 08/937,263
    37   (B) FILING DATE: September 15, 1997
    40   (A) APPLICATION NUMBER: US 08/725,182
    41   (B) FILING DATE: October 3, 1996
    43   (viii) ATTORNEY/AGENT INFORMATION:
    44   (A) NAME: Hanson, Norman D.
    45   (B) REGISTRATION NUMBER: 30,946
    46·   (C) REFERENCE/DOCKET NUMBER: LUD 2166.4 CIP (09807811)
    48   (ix) TELECOMMUNICATION INFORMATION:
    49   (A) TELEPHONE: (212) 318-3000
    50   (B) TELEFAX: (212) 318-3400
    52 (2) INFORMATION FOR SEQ ID NO: 1:
    53   (i) SEQUENCE CHARACTERISTICS:
    54   (A) LENGTH: 752 base pairs
    55   (B) TYPE: nucleic acid
    56   (C) STRANDEDNESS: double

```
57            (D) TOPOLOGY: linear
58     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
60 ATCCTCGTGG GCCCTGACCT TCTCTCTGAG AGCCGGGCAG AGGCTCCGGA GCC      53
62 ATG CAG GCC GAA GGC CGG GGC ACA GGG GGT TCG ACG GGC GAT GCT      98
63 Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala
64             5                   10                  15
66 GAT GGC CCA GGA GGC CCT GGC ATT CCT GAT GGC CCA GGG GGC AAT     143
67 Asp Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn
68             20                  25                  30
70 GCT GGC GGC CCA GGA GAG GCG GGT GCC ACG GGC GGC AGA GGT CCC     188
71 Ala Gly Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Ala Pro
72             35                  40                  45
74 CGG GGC GCA GGG GCA GCA AGG GCC TCG GGG CCG GGA GGA GGC GCC     233
75 Arg Gly Ala Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala
76             50                  55                  60
78 CCG CGG GGT CCG CAT GGC GGC GCG GCT TCA GGG CTG AAT GGA TGC     278
79 Pro Arg Gly Pro His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys
80             65                  70                  75
82 TGC AGA TGC GGG GCC AGG GGG CCG GAG AGC CGC CTG CTT GAG TTC     323
83 Cys Arg Cys Gly Ala Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe
84             80                  85                  90
86 TAC CTC GCC ATG CCT TTC GCG ACA CCC ATG GAA GCA GAG CTG GCC     368
87 Tyr Leu Ala Met Pro Phe Ala Thr Pro Met Glu Ala Glu Leu Ala
88             95                  100                 105
90 CGC AGG AGC CTG GCC CAG GAT GCC CCA CCG CTT CCC GTG CCA GGG     413
91 Arg Arg Ser Leu Ala Gln Asp Ala Pro Pro Leu Pro Val Pro Gly
92             110                 115                 120
94 GTG CTT CTG AAG GAG TTC ACT GTG TCC GGC AAC ATA CTG ACT ATC     458
95 Val Leu Leu Lys Glu Phe Thr Val Ser Gly Asn Ile Leu Thr Ile
96             125                 130                 135
98 CGA CTG ACT GCT GCA GAC CAC CGC CAA CTG CAG CTC TCC ATC AGC     503
99 Arg Leu Thr Ala Ala Asp His Arg Gln Leu Gln Leu Ser Ile Ser
100            140                 145                 150
102 TCC TGT CTC CAG CAG CTT TCC CTG TTG ATG TGG ATC ACG CAG TGC    548
103 Ser Cys Leu Gln Gln Leu Ser Leu Leu Met Trp Ile Thr Gln Cys
104            155                 160                 165
106 TTT CTG CCC GTG TTT TTG GCT CAG CCT CCC TCA GGG CAG AGG CGC    593
107 Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser Gly Gln Arg Arg
108            170                 175                 180
110 TAAGCCCAGC CTGGCGCCCC TTCCTAGGTC ATGCCTCCTC CCCTAGGGAA         643
111 TGGTCCCAGC ACGAGTGGCC AGTTCATTGT GGGGGCCTGA TTGTTTGTCG         693
112 CTGGAGGAGG ACGGCTTACA TGTTTGTTTC TGTAGAAAAT AAAACTGAGC         743
113 TACGAAAAA                                                      752
115 (2) INFORMATION FOR SEQ ID NO: 2:
116     (i) SEQUENCE CHARACTERISTICS:
117         (A) LENGTH: 31 base pairs
118         (B) TYPE: nucleic acid
119         (C) STRANDEDNESS: single
120         (D) TOPOLOGY: linear
```

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121      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
123 CACACAGGAT CCATGGATGC TGCAGATGCG G                        31
126 (2) INFORMATION FOR SEQ ID NO: 3:
127      (i) SEQUENCE CHARACTERISTICS:
128          (A) LENGTH: 32 base pairs
129          (B) TYPE: nucleic acid
130          (C) STRANDEDNESS: single
131          (D) TOPOLOGY: linear
132      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
134 CACACAAAGC TTGGCTTAGC GCCTCTGCCC TG                       32
137 (2) INFORMATION FOR SEQ ID NO: 4:
138      (i) SEQUENCE CHARACTERISTICS:
139          (A) LENGTH: 11 amino acids
140          (B) TYPE: amino acid
141          (D) TOPOLOGY: linear
142      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
144 Ser Leu Leu Met Trp Ile Thr Gln Cys Phe Leu
145                  5                 10
148 (2) INFORMATION FOR SEQ ID NO: 5:
149      (i) SEQUENCE CHARACTERISTICS:
150          (A) LENGTH: 9 amino acids
151          (B) TYPE: amino acid
152          (D) TOPOLOGY: linear
153      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
155 Ser Leu Leu Met Trp Ile Thr Gln Cys
156                  5
159 (2) INFORMATION FOR SEQ ID NO: 6:
160      (i) SEQUENCE CHARACTERISTICS:
161          (A) LENGTH: 9 amino acids
162          (B) TYPE: amino acid
163          (D) TOPOLOGY: linear
164      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
166 Gln Leu Ser Leu Leu Met Trp Ile Thr
167                  5
168 (2) INFORMATION FOR SEQ ID NO: 7:
169      (i) SEQUENCE CHARACTERISTICS:
170          (A) LENGTH: 10 amino acids
171          (B) TYPE: amino acid
172          (D) TOPOLOGY: linear
173      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
175 Leu Leu Met Trp Ile Thr Gln Cys Phe Leu
176                  5                 10
179 (2) INFORMATION FOR SEQ ID NO: 8:
180      (i) SEQUENCE CHARACTERISTICS:
181          (A) LENGTH: 18 amino acids
182          (B) TYPE: amino acid
183          (D) TOPOLOGY: linear
184      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
186 Ala Ala Asp His Arg Gln Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln
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C--> 180

RAW SEQUENCE LISTING   DATE: 09/22/2003
PATENT APPLICATION: US/09/165,546D   TIME: 15:41:31

Input Set : A:\PTO.PG.txt
Output Set: N:\CRF4\09152003\I165546D.raw

```
187                  5                    10                   15
188 Gln Leu
191 (2) INFORMATION FOR SEQ ID NO: 9:
192      (i) SEQUENCE CHARACTERISTICS:
193            (A) LENGTH: 18 amino acids
194            (B) TYPE: amino acid
195            (D) TOPOLOGY: linear
196 ·    (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
198 Val Leu Leu Lys Glu Phe Thr Val Ser Gly Asn Ile Leu Thr Ile Arg
199                  5                    10                   15
200 Leu Thr
203 (2) INFORMATION FOR SEQ ID NO: 10:
204      (i) SEQUENCE CHARACTERISTICS:
205            (A) LENGTH: 18 amino acids
206            (B) TYPE: amino acid
207            (D) TOPOLOGY: linear
208      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
210 Pro Leu Pro Val Pro Gly Val Leu Leu Lys Glu Phe Thr Val Ser Gly
211                  5                    10                   15
212 Asn Ile
215 (2) INFORMATION FOR SEQ ID NO: 11:
216      (i) SEQUENCE CHARACTERISTICS:
217            (A) LENGTH: 18 amino acids  ·
218            (B) TYPE: amino acid
219            (D) TOPOLOGY: linear
220      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
222 Gly Ala Ala Ser Gly Leu Asn Gly Cys Cys Arg Cys Gly Ala Arg Gly
223                  5                    10                   15
224 Pro Glu
227 (2) INFORMATION FOR SEQ ID NO: 12:
228      (i) SEQUENCE CHARACTERISTICS:
229            (A) LENGTH: 18 amino acids
230            (B) TYPE: amino acid
231            (D) TOPOLOGY: linear
232      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:
234 Ser Arg Leu Leu Glu Phe Tyr Leu Ala Met Pro Phe Ala Thr Pro Met
235                  5                    10                   15
236 Glu Ala
239 (2) INFORMATION FOR SEQ ID NO: 13:
240      (i) SEQUENCE CHARACTERISTICS:
241            (A) LENGTH: 18 amino acids
242            (B) TYPE: amino acid
243            (D) TOPOLOGY: linear
244      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:
246 Thr Val Ser Gly Asn Ile Leu Thr Ile Arg Leu Thr Ala Ala Asp His
247                  5                    10                   15
248 Arg Gln
251 (2) INFORMATION FOR SEQ ID NO: 14:
252      (i) SEQUENCE CHARACTERISTICS:
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RAW SEQUENCE LISTING   DATE: 09/22/2003
PATENT APPLICATION: US/09/165,546D   TIME: 15:41:31

Input Set : A:\PTO.PG.txt
Output Set: N:\CRF4\09152003\I165546D.raw

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253              (A) LENGTH: 6 amino acids
254              (B) TYPE: amino acid
255              (D) TOPOLOGY: linear
256       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:
258 Leu Leu Met Trp Ile Thr
259                 5
262 (2) INFORMATION FOR SEQ ID NO: 15:
263       (i) SEQUENCE CHARACTERISTICS:
264              (A) LENGTH: 180 amino acids
265              (B) TYPE: amino acid
266              (D) TOPOLOGY: linear
267       (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15
269 Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala
270                 5                  10                 15
271 Asp Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn
272                 20                 25                 30
273 Ala Gly Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro
274                 35                 40                 45
275 Arg Gly Ala Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala
276                 50                 55                 60
277 Pro Arg Gly Pro His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys
278                 65                 70                 75
279 Cys Arg Cys Gly Ala Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe
280                 80                 85                 90
281 Tyr Leu Ala Met Pro Phe Ala Thr Pro Met Glu Ala Glu Leu Ala
282                 95                 100                105
283 Arg Arg Ser Leu Ala Gln Asp Ala Pro Pro Leu Pro Val Pro Gly
284                 110                115                120
285 Val Leu Leu Lys Glu Phe Thr Val Ser Gly Asn Ile Leu Thr Ile
286                 125                130                135
287 Arg Leu Thr Ala Ala Asp His Arg Gln Leu Gln Leu Ser Ile Ser
288                 140                145                150
289 Ser Cys Leu Gln Gln Leu Ser Leu Leu Met Trp Ile Thr Gln Cys
290                 155                160                165
291 Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser Gly Gln Arg Arg
292                 170                175                180
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VERIFICATION SUMMARY   DATE: 09/22/2003
PATENT APPLICATION: **US/09/165,546D**   TIME: 15:41:32

Input Set : **A:\PTO.PG.txt**
Output Set: **N:\CRF4\09152003\I165546D.raw**

L:3 M:220 C: Keyword misspelled or invalid format, [(i) APPLICANT:]
L:27 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:28 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:31 M:220 C: Keyword misspelled or invalid format, [(vii) PRIOR APPLICATION DATA:]
L:180 M:220 C: Keyword misspelled or invalid format, [(i) SEQUENCE CHARACTERISTICS:]

1600

RAW SEQUENCE LISTING   DATE: 09/22/2003
PATENT APPLICATION: **US/09/165,546D**   TIME: 15:37:06

Input Set : **A:\PTO.PG.txt**
Output Set: **N:\CRF4\09222003\I165546D.raw**

SEQUENCE LISTING
```
      1 (1) GENERAL INFORMATION:
C-->  3        (i) APPLICANT: Knuth, Alexader; Jager, Elke; Chen, Yao, Scanlan, Matt;
      4                Gure, Ali, Old, Lloyd, Ritter, Gerd
      6       (ii) TITLE OF INVENTION: ISOLATED PEPTIDES CORRESPONDING TO AMINO ACID
      7                SEQUENCES OF NY-ESO-1, WHICH BIND TO MHC CLASS I AND MHC
CLASS II MOLECULES, AND
      8                USES THEREOF
     10      (iii) NUMBER OF SEQUENCES: 15
     12       (iv) CORRESPONDENCE ADDRESS:
     13            (A) ADDRESSEE: FULBRIGHT & JAWORSKI LLP
     14            (B) STREET: 666 Fifth Avenue
     15            (C) CITY: New York City
     16            (D) STATE: New York
     17            (E) COUNTRY: USA
     18            (F) ZIP: 10158
     20        (v) COMPUTER READABLE FORM:
     21            (A) MEDIUM TYPE: Diskette, 3.5 inch, 144 kb storage
     22            (B) COMPUTER: IBM
     23            (C) OPERATING SYSTEM: PC-DOS
     24            (D) SOFTWARE: Word
     26       (vi) CURRENT APPLICATION DATA:
C--> 27            (A) APPLICATION NUMBER: US/09/165,546D
C--> 28            (B) FILING DATE: 02-Oct-1998
     29            (C) CLASSIFICATION: 530
C--> 39      (vii) PRIOR APPLICATION DATA:
     32            (A) APPLICATION NUMBER: 09/062,422
     33            (B) FILING DATE: April 17, 1998
     36            (A) APPLICATION NUMBER: 08/937,263
     37            (B) FILING DATE: September 15, 1997
     40            (A) APPLICATION NUMBER: US 08/725,182
     41            (B) FILING DATE: October 3, 1996
     43     (viii) ATTORNEY/AGENT INFORMATION:
     44            (A) NAME: Hanson, Norman D.
     45            (B) REGISTRATION NUMBER: 30,946
     46            (C) REFERENCE/DOCKET NUMBER: LUD 2166.4 CIP (09807811)
     48       (ix) TELECOMMUNICATION INFORMATION:
     49            (A) TELEPHONE: (212) 318-3000
     50            (B) TELEFAX: (212) 318-3400
     52 (2) INFORMATION FOR SEQ ID NO: 1:
     53        (i) SEQUENCE CHARACTERISTICS:
     54            (A) LENGTH: 752 base pairs
     55            (B) TYPE: nucleic acid
     56            (C) STRANDEDNESS: double
```

```
 57            (D) TOPOLOGY: linear
 58     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
 60 ATCCTCGTGG GCCCTGACCT TCTCTCTGAG AGCCGGGCAG AGGCTCCGGA GCC    53
 62 ATG CAG GCC GAA GGC CGG GGC ACA GGG GGT TCG ACG GGC GAT GCT    98
 63 Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala
 64                  5                 10                 15
 66 GAT GGC CCA GGA GGC CCT GGC ATT CCT GAT GGC CCA GGG GGC AAT   143
 67 Asp Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn
 68                 20                 25                 30
 70 GCT GGC GGC CCA GGA GAG GCG GGT GCC ACG GGC GGC AGA GGT CCC   188
W--> 71 Ala Gly Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg (Aly) Pro
 72                 35                 40             A-G   45
 74 CGG GGC GCA GGG GCA GCA AGG GCC TCG GGG CCG GGA GGA GGC GCC   233
 75 Arg Gly Ala Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala
 76                 50                 55                 60
 78 CCG CGG GGT CCG CAT GGC GGC GCG GCT TCA GGG CTG AAT GGA TGC   278
 79 Pro Arg Gly Pro His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys
 80                 65                 70                 75
 82 TGC AGA TGC GGG GCC AGG GGG CCG GAG AGC CGC CTG CTT GAG TTC   323
 83 Cys Arg Cys Gly Ala Arg Gly Pro Glu (Ser) Arg Leu Leu Glu Phe
W--> 84                 80            (80) 85                 90
 86 TAC CTC GCC ATG CCT TTC GCG ACA CCC ATG GAA GCA GAG CTG GCC   368
 87 Tyr Leu Ala Met Pro Phe Ala Thr Pro Met Glu Ala Glu Leu Ala
 88                 95                100                105
 90 CGC AGG AGC CTG GCC CAG GAT GCC CCA CCG CTT CCC GTG CCA GGG   413
 91 Arg Arg Ser Leu Ala Gln Asp Ala Pro Pro Leu Pro Val Pro Gly
 92                110                115                120
 94 GTG CTT CTG AAG GAG TTC ACT GTG TCC GGC AAC ATA CTG ACT ATC   458
 95 Val Leu Leu Lys Glu Phe Thr Val Ser Gly Asn Ile Leu Thr Ile
 96                125                130                135
 98 CGA CTG ACT GCT GCA GAC CAC CGC CAA CTG CAG CTC TCC ATC AGC   503
 99 Arg Leu Thr Ala Ala Asp His Arg Gln Leu Gln Leu Ser Ile Ser
100                140                145                150
102 TCC TGT CTC CAG CAG CTT TCC CTG TTG ATG TGG ATC ACG CAG TGC   548
103 Ser Cys Leu Gln Gln Leu Ser Leu Leu Met Trp Ile Thr Gln Cys
104                155                160                165
106 TTT CTG CCC GTG TTT TTG GCT CAG CCT CCC TCA GGG CAG AGG CGC   593
107 Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser Gly Gln Arg Arg
108                170                175                180
110 TAAGCCCAGC CTGGCGCCCC TTCCTAGGTC ATGCCTCCTC CCCTAGGGAA   643
111 TGGTCCCAGC ACGAGTGGCC AGTTCATTGT GGGGGCCTGA TTGTTTGTCG   693
112 CTGGAGGAGG ACGGCTTACA TGTTTGTTTC TGTAGAAAAT AAAACTGAGC   743
113 TACGAAAAA                                               752
115 (2) INFORMATION FOR SEQ ID NO: 2:
116         (i) SEQUENCE CHARACTERISTICS:
117             (A) LENGTH: 31 base pairs
118             (B) TYPE: nucleic acid
119             (C) STRANDEDNESS: single
120             (D) TOPOLOGY: linear
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RAW SEQUENCE LISTING   DATE: 09/22/2003
PATENT APPLICATION: **US/09/165,546D**   TIME: 11:05:12

Input Set : **À:\pto.yf.txt**
Output Set: **N:\CRF4\09222003\I165546D.raw**

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263      (i) SEQUENCE CHARACTERISTICS:
264           (A) LENGTH: 180 amino acids
265           (B) TYPE: amino acid
266           (D) TOPOLOGY: linear
267      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15
269 Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala
270               5               10              15
271 Asp Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn
272               20              25              30
273 Ala Gly Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro
274               35              40              45
275 Arg Gly Ala Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala
276               50              55              60
277 Pro Arg Gly Pro His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys
278               65              70              75
279 Cys Arg Cys Gly Ala Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe
280               80              85              90
281 Tyr Leu Ala Met Pro Phe Ala Thr Pro Met Glu Ala Glu Leu Ala
282               95              100             105
283 Arg Arg Ser Leu Ala Gln Asp Ala Pro Pro Leu Pro Val Pro Gly
284               110             115             120
285 Val Leu Leu Lys Glu Phe Thr Val Ser Gly Asn Ile Leu Thr Ile
286               125             130             135
287 Arg Leu Thr Ala Ala Asp His Arg Gln Leu Gln Leu Ser Ile Ser
288               140             145             150
289 Ser Cys Leu Gln Gln Leu Ser Leu Leu Met Trp Ile Thr Gln Cys
290               155             160             165
291 Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser Gly Gln Arg Arg
292               170             175             180
```

E--> 293 -6-
     294 LUD5466.4-SEQ.doc 1 ─ delete

```
121      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:
123 CACACAGGAT CCATGGATGC TGCAGATGCG G                              31
126 (2) INFORMATION FOR SEQ ID NO: 3:
127      (i) SEQUENCE CHARACTERISTICS:
128           (A) LENGTH: 32 base pairs
129           (B) TYPE: nucleic acid
130           (C) STRANDEDNESS: single
131           (D) TOPOLOGY: linear
132      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3:
134 CACACAAAGC TTGGCTTAGC GCCTCTGCCC TG                             32
137 (2) INFORMATION FOR SEQ ID NO: 4:
138      (i) SEQUENCE CHARACTERISTICS:
139           (A) LENGTH: 11 amino acids
140           (B) TYPE: amino acid
141           (D) TOPOLOGY: linear
142      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4:
144 Ser Leu Leu Met Trp Ile Thr Gln Cys Phe Leu
145                 5                   10
148 (2) INFORMATION FOR SEQ ID NO: 5:
149      (i) SEQUENCE CHARACTERISTICS:
150           (A) LENGTH: 9 amino acids
151           (B) TYPE: amino acid
152           (D) TOPOLOGY: linear
153      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5:
155 Ser Leu Leu Met Trp Ile Thr Gln Cys
156                 5
159 (2) INFORMATION FOR SEQ ID NO: 6:
160      (i) SEQUENCE CHARACTERISTICS:
161           (A) LENGTH: 9 amino acids
162           (B) TYPE: amino acid
163           (D) TOPOLOGY: linear
164      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6:
166 Gln Leu Ser Leu Leu Met Trp Ile Thr
167                 5
168 (2) INFORMATION FOR SEQ ID NO: 7:
169      (i) SEQUENCE CHARACTERISTICS:
170           (A) LENGTH: 10 amino acids
171           (B) TYPE: amino acid
172           (D) TOPOLOGY: linear
173      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7:
175 Leu Leu Met Trp Ile Thr Gln Cys Phe Leu
176                 5                   10
179 (2) INFORMATION FOR SEQ ID NO: 8:
C--> 180      (i) SEQUENCE CHARACTERISTICS:
181           (A) LENGTH: 18 amino acids
182           (B) TYPE: amino acid
183           (D) TOPOLOGY: linear
184      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8:
186 Ala Ala Asp His Arg Gln Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln
```

RAW SEQUENCE LISTING   DATE: 09/22/2003
PATENT APPLICATION: **US/09/165,546D**   TIME: 15:37:06

Input Set : **A:\PTO.PG.txt**
Output Set: **N:\CRF4\09222003\I165546D.raw**

```
187                  5                  10                  15
188 Gln Leu
191 (2) INFORMATION FOR SEQ ID NO: 9:
192      (i) SEQUENCE CHARACTERISTICS:
193          (A) LENGTH: 18 amino acids
194          (B) TYPE: amino acid
195          (D) TOPOLOGY: linear
196      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9:
198 Val Leu Leu Lys Glu Phe Thr Val Ser Gly Asn Ile Leu Thr Ile Arg
199                  5                  10                  15
200 Leu Thr
203 (2) INFORMATION FOR SEQ ID NO: 10:
204      (i) SEQUENCE CHARACTERISTICS:
205          (A) LENGTH: 18 amino acids
206          (B) TYPE: amino acid
207          (D) TOPOLOGY: linear
208      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10:
210 Pro Leu Pro Val Pro Gly Val Leu Leu Lys Glu Phe Thr Val Ser Gly
211                  5                  10                  15
212 Asn Ile
215 (2) INFORMATION FOR SEQ ID NO: 11:
216      (i) SEQUENCE CHARACTERISTICS:
217          (A) LENGTH: 18 amino acids
218          (B) TYPE: amino acid
219          (D) TOPOLOGY: linear
220      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11:
222 Gly Ala Ala Ser Gly Leu Asn Gly Cys Cys Arg Cys Gly Ala Arg Gly
223                  5                  10                  15
224 Pro Glu
227 (2) INFORMATION FOR SEQ ID NO: 12:
228      (i) SEQUENCE CHARACTERISTICS:
229          (A) LENGTH: 18 amino acids
230          (B) TYPE: amino acid
231          (D) TOPOLOGY: linear
232      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12:
234 Ser Arg Leu Leu Glu Phe Tyr Leu Ala Met Pro Phe Ala Thr Pro Met
235                  5                  10                  15
236 Glu Ala
239 (2) INFORMATION FOR SEQ ID NO: 13:
240      (i) SEQUENCE CHARACTERISTICS:
241          (A) LENGTH: 18 amino acids
242          (B) TYPE: amino acid
243          (D) TOPOLOGY: linear
244      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13:
246 Thr Val Ser Gly Asn Ile Leu Thr Ile Arg Leu Thr Ala Ala Asp His
247                  5                  10                  15
248 Arg Gln
251 (2) INFORMATION FOR SEQ ID NO: 14:
252      (i) SEQUENCE CHARACTERISTICS:
```

RAW SEQUENCE LISTING   DATE: 09/22/2003
PATENT APPLICATION: US/09/165,546D   TIME: 15:37:06

Input Set : A:\PTO.PG.txt
Output Set: N:\CRF4\09222003\I165546D.raw

```
253              (A) LENGTH: 6 amino acids
254              (B) TYPE: amino acid
255              (D) TOPOLOGY: linear
256     (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14:
258 Leu Leu Met Trp Ile Thr
259                 5
262 (2) INFORMATION FOR SEQ ID NO: 15:
263      (i) SEQUENCE CHARACTERISTICS:
264              (A) LENGTH: 180 amino acids
265              (B) TYPE: amino acid
266              (D) TOPOLOGY: linear
267      (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15
269 Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala
270              5             10             15
271 Asp Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn
272              20            25             30
273 Ala Gly Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro
274              35            40             45
275 Arg Gly Ala Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala
276              50            55             60
277 Pro Arg Gly Pro His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys
278              65            70             75
279 Cys Arg Cys Gly Ala Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe
280              80            85             90
281 Tyr Leu Ala Met Pro Phe Ala Thr Pro Met Glu Ala Glu Leu Ala
282              95            100            105
283 Arg Arg Ser Leu Ala Gln Asp Ala Pro Pro Leu Pro Val Pro Gly
284              110           115            120
285 Val Leu Leu Lys Glu Phe Thr Val Ser Gly Asn Ile Leu Thr Ile
286              125           130            135
287 Arg Leu Thr Ala Ala Asp His Arg Gln Leu Gln Leu Ser Ile Ser
288              140           145            150
289 Ser Cys Leu Gln Gln Leu Ser Leu Leu Met Trp Ile Thr Gln Cys
290              155           160            165
291 Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser Gly Gln Arg Arg
292              170           175            180
```

VERIFICATION SUMMARY   DATE: 09/22/2003
PATENT APPLICATION: **US/09/165,546D**   TIME: 15:37:07

Input Set : **A:\PTO.PG.txt**
Output Set: **N:\CRF4\09222003\I165546D.raw**

L:3 M:220 C: Keyword misspelled or invalid format, [(i) APPLICANT:]
L:27 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:28 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:31 M:220 C: Keyword misspelled or invalid format, [(vii) PRIOR APPLICATION DATA:]
L:71 M:334 W: (2) Invalid Amino Acid in Coding Region, NUMBER OF INVALID KEYS:1
L:84 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1
L:180 M:220 C: Keyword misspelled or invalid format, [(i) SEQUENCE CHARACTERISTICS:]